A REVISION OF THE AUSTRALIAN SPECIES OF EUPLEA, WITH SYNONYMIC NOTES, AND DESCRIPTIONS OF NEW SPECIES.

By W. H. MISKIN, F.E.S.

The Australian species of this genus are more numerous than have been hitherto supposed, and with the view of collating and arranging them in some order the following observations are offered. Upon examining the structural characters of the various groups, I find them so conflicting that I have been quite unable to arrange our species according to the subdivision of the old genus proposed in the various articles by Messrs. Moore and Butler, and feel constrained to retain them all under the one genus.

The following table will in some degree explain my meaning:-

A. Outer margin of primaries rather convex.	
a. Hinder margin of primaries in 3 consider-	
ably convex niveata.	
aa. With colourless oval patch on upperside	
of costa of secondaries in J Tulliolus.	
aaa. Sexual brands or scent glands none ? Darchia.	
bb. Without costal patch.	
bbb. Brands none	
cc. With costal patch Hippias.	
ccc. Brand single, oval shape; present on	
underside in J ? viridis.	
B. Outer margin more or less convex.	
b. Hinder margin moderately convex.	
dd. Costal patch none sulvester.	

1038 A REVISION OF THE AUSTRALIAN SPECIES OF EU	PLŒA,
ddd. Brands two, also present on underside L	ard a nus
dddd. No corresponding brand marks on underside in Q C	rithon.
C. Outer margin slightly excavated.	
c. Hinder margin moderately convex.	
ee. Costal patch none.	
eee. Brands none B	oreas.
eeee. Single white band on underside	
corresponding to brand mark	
in other species; in both sexes ?m	onilifera.
d. Hinder margin extremely convex.	
f. Costal patch none.	
fff. Brand single, very large; underside brand double in 3.	
ffff. Single white band on underside	
corresponding to brand mark,	
in Q A	mycus.
D. Outer margin decidedly excavated.	
e. Hinder margin excessively convex.	
gg. Costal patch none C	orinna.
the contract of the contract o	uclus.
ggg. Brand single, small E	ucius.
ggg. Brand single, small E	ucius.
000	ucius.

Genus Euplea, Fab.

A. Outer margin of primaries rather convex; hinder margin in & considerably convex; with colourless oval patch upper side of costa of secondaries in &; without sexual brands—or scent glands.

E. NIVEATA, Butler.

(Calliplea N.) Trans. Ent. Soc. p. 2, 1875; Jour. Linn. Soc. Zool. XIV. p. 296, 1878.

Moore, (Call. N.), Proc. Zool. Soc. p. 295, 1883.

Cape York.

Butler says this is distinct from his *Hyems = Aerisbe*, Feld., a Timor species, although his figure of the latter seems to exactly represent the C. York species, and the description would equally suit.

E. TULLIOLUS, Fab.

(Pap. T.) Ent. Syst. III. 1, p. 41, n. 103, 1793; Godart (Dan. T.), Enc. Méth. IX. p. 181, 1819; Don. Nat. Rep. II. t. 55, f. 1, 1824; Macleay, King's Aust. II. p. 461, 1827; Doubl. and Hew., Gen. D. Lep. p. 88, n. 26, 1847; Butler, Proc. Zool. Soc. p. 290, n. 64, 1866; (Call. T.) Jour. Linn. Soc. Zool. XIV. p. 296, 1878; Semper, Mus. Godff. XIV. Lep. p. 142, 1878; Moore (Call. T.) Proc. Zool. Soc. p. 295, 1883; var a. E. Saundersii, Feld. Reise Nov. Lep. II. p. 322, n. 439, 1867.

Rockhampton, northwards to Cape York; also from Fiji.

E. DARCHIA, Macleay.

(Dan. D.) King's Australia II., p. 462, n. 149, 1827; Butler, Jour. Linn. Soc. Zool. XIV. p. 296, 1878; Moore (Call. D.), Proc. Zool. Soc. p. 295, 1883; E. Priapus, Butler, Proc. Zool. Soc. p. 291, n. 67, t. 29, f. 2, 1866; Trans. Ent. Soc. p. 2, 1875; (Call. P.) Jour. Linn. Soc. Zool. XIV. p. 296, 1878; Moore (Call. P.), Proc. Zool. Soc. p. 295, 1883.

Port Essington.

I only know this species by description, but it must belong to this group.

Without costal patch, and without sexual brands.

E. MISENUS, n.sp.

3. Upperside.—Primaries: Dense velvety opaque brownish-black, without markings of any kind. Secondaries: Dark brown

with a silky gloss, except anal region, which is light brown, increasing in darkness towards base and discal area; from anal angle towards apex a sub-marginal row of faintly discernible small pale spots.

Underside.—Light shining brown, darker in discal area. *Primaries* with a bluish speck within and near end of cell, and another just outside. *Secondaries*, a small bluish spot within and at end of cell, and a series of five white small spots transversely beyond cell; a few outer sub-marginal white points from anal angle.

Thorax and abdomen, above black; beneath, dark brown.

Exp. $3\frac{5}{12}$ in.

Hab.—Cape York. Coll. Miskin.

This is probably the insect that Semper (Mus. Godff. p. 6) refers to, *Climena*, Cr., which it certainly very much resembles, but is, I think, sufficiently distinct.

With costal patch on secondaries of ξ ; and a single brand, oval-shaped, also present on underside in ξ .

E. HIPPIAS, n.sp.

3. Upperside.—Primaries: Rusty brown; centre of wing from just beyond base, where it commences narrowly, increasing in width outwardly, embracing lower part of cell and below last median branch, and extending outwardly to a short distance from middle of outer border, is a patch of very pale brown, growing lighter in shade, until at the extremity it is a yellowish-white. Secondaries, rust-brown, with a large oval-shaped patch of ochreous-brown occupying about one-half the cell and extending upwards towards costa.

Underside.—Primaries as above; secondaries all smoke-brown, without markings of any kind.

Thorax and abdomen, above dark brown; beneath light brown.

Exp. $3\frac{3}{12}$ in.

Hab.—Cape York. Coll. Miskin.

E. VIRIDIS, Butler.

(Salpinx V.) Ann. Nat. Hist. (5) X, p. 38, Q, 1882; Moore (Saphara V.), Proc. Zool. Soc. p. 298, 1883.

Thursday Island.

I have not seen a specimen of this insect; it will probably come under this group.

B. Outer margin more or less convex; hinder margin moderately convex; costal patch none; brands two, also present on underside; no corresponding brand marks on underside of Q.

E. SYLVESTER, Fab.

(Pap. S.) Ent. Syst. III. 1, p. 41, n. 104, 1793; Don. Nat. Rep. IV. t. 129, 1826; Doubl. and Hew., Gen. D. L. p. 88, n. 25, 1847; Butler, Proc. Zool. Soc. p. 290, 1866; Westw., Trans. Ent. Soc. p. 108, 1872; Semper, Mus. Godff. p. 6, n. 7, 1878; Stictop. S., Butler, Jour. Linn. Soc. Zool. XIV. p. 303, 1878; Doricha S., Moore, Proc. Zool. Soc. p. 318, 1883; Dan. Sylvestris, Godart, Enc. Méth. IX. p. 182, n. 20, 1819; E. Pelor, Doubl. and Hew., Gen. D. L. t. 11, f. 1, 1847; Butler, Proc. Zool. Soc. p. 300, n. 91, 1866; Chenu, Enc. D'Hist. Nat. p. 64, f. 153, 1869; Stic. P., Butler, Jour. Linn. Soc. Zool. XIV. p. 303, 1878; Dor. P., Moore, Proc. Zool. Soc. p. 318, 1883; E. Melpomene, Butler, Proc. Zool. Soc., p. 300, n. 92, p. 298, f. 2, 1866.

Bowen to Cape York.

E. DARDANUS, n.sp.

3. UPPERSIDE. — Primaries: Velvety dense brownish-black, with slight purple reflection: a series of three bluish-white spots across and near to apex, the central much the largest, the lower a mere speck; two other round similar spots close to outer margin below the middle. Secondaries: Soft dark brown, much darker towards the base; a sub-marginal band of eight dirty white spots, of which the two central are double, the three towards apical angle round, the anal three elongate; all the spots are ill-defined on their inner margin, softening gradually into the brown.

Underside.—Light brown, the discal and basal areas much darker. *Primaries* with the spots as above, and in addition one small spot above and one below the apical series; four small blue spots in centre of wing, one being within and near to end of cell, and three transversely just beyond and below cell. *Secondaries* with the spots of sub-marginal band rather more defined; a discal group of blue specks, one within, five others encircling end of cell.

Thorax and abdomen black.

Exp. 3 in.

Hab.—Cape York. Coll. Miskin.

This species is near to *sylvester*, but is distinguished from it particularly by the absence of marginal rows of white specks in both wings.

E. crithon, n.sp.

3. UPPERSIDE.—Dense velvety black with purple reflection, without mark of any kind.

Underside.—Basal and discal areas dark brown, outer area light brown. *Primaries* with two blue-white small spots between 1st and 2nd, and 2nd and 3rd median branches, near end of cell. *Secondaries* with five small violet spots arranged in a semicircle around end of cell.

Thorax and abdomen black.

Exp. 3 in.

Hab.—Cape York. Coll. Miskin.

C. Outer margin slightly excavated; hinder margin moderately convex; costal patch none; brands none; single white band on underside corresponding to brand mark in other species; in both sexes.

E. BOREAS, n.sp.

3. UPPERSIDE.—Primaries: Dense opaque brown, with an arched apical band of five white spots; an outer complete marginal row of white specks; two small white spots within marginal row, just below middle. Secondaries: Dark brown with silken gloss; perfect outer marginal row of small white spots not quite reaching anal angle; a transverse band of white patches from anal angle, where they are largest, to apical angle, the two last being round and smaller, the others double and elongate; abdominal margin rusty brown.

Underside.—Light shining brown; discal area darker; with spots as above, but rather more developed, and with some additional ones in primaries; one in and near end of cell, and six others arranged transversely around end of cell, these having a bluish tinge. Secondaries also as above, with a curved series of five small bluish-white specks encircling end of cell, and one within.

Q. Similar to 3, but lighter brown and without gloss; the white markings somewhat more developed, and with an additional white spot situated upon the costa rather beyond middle, above and beneath, and three additional ones in the discal series.

Thorax and abdomen dark brown.

Exp. $2\frac{11}{12}$ to $3\frac{2}{12}$ in.

Hab.—Cardwell. Coll. Miskin.

E. MONILIFERA, Moore.

(Gamatoba M.) Proc. Zool. Soc. p. 262, 1883.

Thursday Island.

I only know this species by the description; it appears to come under this group.

Hinder margin excessively convex; costal patch none; brand single, very large; underside, brand double in β ; single white band on underside of Q corresponding to brand mark.

E. AMYCUS, n.sp.

3. UPPERSIDE.—Primaries: Dark velvety brown, outer area lighter; apical band of four irregularly-shaped clouded white spots, the two upper being the smallest; a small round white spot between 1st and 2nd median branches near outer margin. Secondaries: Base and discal area dark brown, rest of wing light brown; two small white sub-marginal spots near apex, lower one almost obsolete.

Underside.—Smoky brown, marked with bluish-white small spots, except apical ones, which are white. *Primaries*, an apical band of five spots; one within and near end of cell; three transversely below and beyond end of cell; hind margin very pale. *Secondaries*, three outer sub-marginal double spots near apex; one within end of cell; six in a semicircle around end of cell; costa with a rufous tinge.

Q as in Z, but somewhat paler, and with the spots rather less distinct.

Thorax and abdomen dark brown.

Exp. $2\frac{10}{12}$ - $3\frac{2}{12}$ in.

Hab.—Cape York. Coll. Miskin.

D. Outer margin decidedly excavated; hinder margin excessively convex; costal patch none; brand single, small; single white line on underside both sexes, corresponding with brand mark.

E. CORINNA, Macleay.

(Dan. C.) King's Aust. II. p. 462, n. 150, 1827; Butler, Jour. Linn. Soc. Zool. XIV. p. 299, 1878; Moore (Charapa C.), Proc. Zool. Soc. p. 270, 1883; E. Angasii, Felder, Reise Nov. Lep. II. p. 343, n. 476, 1867; Herr.-Schf., Stett. Ent. Zeit. p. 69, t. 2, f. 7, 1869; Ex. Schmett. II. f. 108, 3, 1869; Semper, Mus. Godff.

XIV, p. 141, 1879; Moore (Chanapa A.), Proc. Zool. Soc. p. 270, 1883; E. Lewinii, Felder, Reise Nov. Lep. II. p. 345, n. 478, 1867; Moore (Ch. L.), Proc. Zool. Soc. p. 270, 1883.

Brisbane to Cape York.

This species is exceedingly common in southern Queensland, but seems to get scarcer as we proceed north, where its place is taken by *Tulliolus* at Rockhampton, a very abundant species there; and by *sylvester*, still further north, which is found in equal abundance in its more particular locality.

E. EUCLUS, n.sp.

3. UPPERSIDE.—Chocolate brown, with yellowish-white spots. Primaries, a small sub-costal spot above middle; a series of six spots in an arched row across apex, three being pretty close to costa and very small, the two next large, the last small and near outer border; two spots near to and about middle of outer margin, the upper being the larger and further from border. Secondaries with a transverse band parallel to, but some little distance in from, outer margin, of elongate narrow spots in pairs between the nervules, except the upper three, which are round.

Underside.—Light shining brown, discal areas purplish-brown, spots in discal areas being bluish-white, other markings yellowish-white. *Primaries* with markings as above, and in addition a diseal spot and a transverse row outside of this of six small spots; a few sub-marginal specks. *Secondaries*: a transverse band as above; a discal speck, and a curved series around end of cell of seven small spots; a complete sub-marginal row of white specks.

Q. As in 3, but a shade lighter; a third spot upperside of primaries near hinder angle; the band in secondaries less developed.

Underside as in 3, showing the sub-marginal row of white specks in primaries more developed, and three spots instead of two towards hinder angle, the upper one being very large and round.

1046 A REVISION OF THE AUSTRALIAN SPECIES OF EUPLŒA.

Thorax and abdomen dark brown.

Exp. $3 \text{ in., } 9 3\frac{2}{12} \text{ in.}$

Hab.—Cape York. Coll. Miskin.

This species is very close to *Corinna*, but is pretty well distinguished on the upperside by the absence of sub-marginal row of white spots in both wings, and by the less developed transverse band of secondaries. On the underside the resemblance is somewhat close, but, as the latter is very stable in its appearance, I think this species must be considered as distinct.

E. BOISDUVALII, Lucas.

Rev. Zool. p. 321, 1853; Butler, Proc. Zool. Soc. p. 302, n. 90, 1866; Moore (Deragena B.), Proc. Zool. Soc. p. 272, 1883.

Australia.

I cannot identify this species with any form known to me. I assume it to belong to this group from the description.

E. EICHORNI, Staudinger.

Ex. Schmett. p. 53, T. XXVI. 1885?

N. Queensland.

I am unable to refer to description and figure of this species. I cannot therefore place it in any of my groups.

The following species are mentioned as Australian, I think erroneously:—

E. eleutho, Quoy; E. eschscholtzii, Felder; E. climena, Cramer; E. eleusina, Cramer.